

I CLAIM:

1. A tabber apparatus comprising:
a frame;
5 a friction drive roller rotatably and operatively connected to the frame;
a take-up spool rotatably and operatively connected to the frame,
the take-up spool operatively connected to the friction drive roller to allow
backing paper which is wrapped about a portion of the friction drive roller to be
10 taken up onto the take-up spool.
2. The apparatus of claim 1 further comprising a guide post positioned
to allow the portion of the friction drive roller to be wrapped with the backing
paper.
- 15 3. The apparatus of claim 1 wherein the friction drive roller comprises
a sponge-like material.
4. The apparatus of claim 3 wherein the sponge-like material
20 comprises neoprene.
5. The apparatus of claim 1 wherein the take-up spool is operatively
connected to the drive roller via a belt.
- 25 6. The apparatus of claim 1 wherein the portion of the friction drive
roller comprises at least 60 degrees.

7. The apparatus of claim 1 wherein the portion of the friction drive roller is at least about 100 degrees.

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8. The apparatus of claim 1 wherein the portion of wrap is about 180 degrees.

9. The apparatus of claim 1 further comprising a tab folding roller assembly comprising a tab drive roller made of a slick material.

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10. The apparatus of claim 9 wherein the tab drive roller is made of aluminum.

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11. A method of operating a tabber apparatus comprising:
providing a frame, a friction drive roller rotatably and operatively connected to the frame, and a take-up spool rotatably and operatively connected to the frame, the take-up spool operatively connected to the friction drive roller;

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wrapping backing paper around a portion of the friction drive roller;
rotating the friction drive roller;
rotating the take-up spool, and
taking up backing paper on the take-up spool.

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12. The method of claim 11 further comprising:
wrapping the backing paper between at least about 100-180 degrees and the friction drive roller.

13. The method of claim 11 further comprising:

providing a peel plate, pulling the backing paper a first distance
around the peel plate to partially peel one adhesive backed tab from the backing
paper;

rotating the friction drive roller to pull the backing paper the first
distance; and

rotating the take-up spool more than the first distance.

14. The method of claim 11 further comprising:

rotating the friction drive roller a first distance; and

rotating the take-up spool a distance further than the first distance
to provide tension in the backing paper.

15. The method of claim 11 further comprising:

providing a tab folding roller assembly including a tab drive roller
with a slick surface;

contacting a leading edge of a form against the adhesive backed
tab;

gripping the tab in a nip region formed between the slick roller on a
tab pressure roller

16. A tabber apparatus comprising:

a frame;

a tab reel spindle rotatably connected to the frame; and

a brake member including a brake link rotatably attached to the frame at an axis point, and a roller rotatably attached to the brake link, wherein the roller is rotated from a first position to a second position about the axis point when a tab is dispensed, and returns to the first position while pulling a backing paper from the tab reel spindle.

17. The apparatus of claim 16 further comprising:

a brake link O-ring positioned around the brake link adjacent an end of the brake link to allow the brake link O-ring to press against the spindle when in the first position.

18. The apparatus of claim 17 further comprising:

a spindle O-ring positioned around the spindle, the spindle O-ring in contact with the brake link O-ring when in the first position.

19. The apparatus of claim 16 wherein the brake link has a length, and the roller has a weight, to allow the brake member to stop the spindle from rotating when the roller is in the first position, and to rotate the spindle when rotating the roller from the second position to the first position.

20. The apparatus of claim 16 wherein the first position is lower than the second position.

21. A method of operating a tabber apparatus comprising:
providing a frame, a tab reel spindle rotatably connected to the
frame, a brake member including a brake link rotatably attached to the frame at
5 an axis point, and a roller rotatably attached to the brake link;
rotating the brake member about the axis to move the roller from a
first position to a second position when a tab is dispensed;
rotating the brake member to move the roller back to the second
position; and
10 pulling backing paper from the tab reel spindle with the roller as it
moves from the second position to the first position.

22. The method of claim 21 further comprising:
pressing a first end of the link against the spindle when the roller is
15 in the first position to stop rotation of the spindle.

23. The method of claim 21 further comprising:
providing a first O-ring positioned around the brake link, providing a
second O-ring positioned around the spindle; and
20 contacting the first and second O-rings to stop the spindle from
rotating when the roller is in the first position.

24. A tabber apparatus comprising:

a frame including a top panel, the top panel including a media sensor opening and a tab sensor opening formed therein;

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a media sensor positioned adjacent the media sensor opening;

a microcontroller operatively connected to the media sensor and to the tab sensor; and

a motor operatively connected to the microcontroller wherein the microcontroller receives signals from the media sensor and tab sensor and activates and deactivates the motor to dispense tabs.

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25. The apparatus of claim 24 wherein the tab sensor and media sensor are reflective, modulated optical sensors.

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26. The apparatus of claim 24 wherein the media sensor is positioned up stream of the tab sensor.

27. The apparatus of claim 24 further comprising EEPROM operatively connected to the microcontroller to allow input by an operator to control the amount of tab peel.

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28. A method of operating a tabber apparatus comprising:
providing a frame including a top panel, the top panel including a
media sensor opening and a tab sensor opening formed therein, a media sensor
5 positioned adjacent the media sensor opening, a tab sensor positioned adjacent
the tab sensor opening, a microcontroller operatively connected to the media
sensor and the tab sensor, and a motor operatively connected to the
microcontroller;
receiving signals sent by the media sensor and tab sensor to the
10 microcontroller; and
activating and deactivating the motor to dispense tabs in timed
sequence.

29. The method of claim 28 further comprising:
15 partially peeling a tab from a backing paper upon receipt of a signal
by the microcontroller from the media sensor.

30. The method of claim 29 further comprising completing the tab
dispense upon sending a signal from the tab sensor to the microcontroller.

20 31. The method of claim 30 further comprising:
EEPROM operatively connected to the microcontroller,
programming the time of motor activation to control the amount of peel from the
backing paper.

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- 5 32. The method of claim 28 further comprising:
 transporting a first media toward a first tab which is fully dispensed;
 blocking the media sensor with the first media;
 starting delay timer for pre-dispense cycle;
 pulling the first tab from the backing paper;
 blocking tab sensor with reflected light from the first media;
 starting pre-dispense cycle of a second tab;
10 unblocking the media sensor and tab sensor as a trailing edge of
 the first media clears the sensor openings;
 starting dispense cycle of second tab by turning on the motor;
 blocking the tab sensor with the second tab; and
 stopping the motor.
- 15 33. A tabber apparatus comprising:
 a frame including at least one opening formed therein;
 a removable shaft including an end received in the opening; and
 a retaining member including a body portion and first and second
20 arm portions, the first arm portion rotatably attached to the frame, the second
 arm portion biased to allow contact of the body portion against the shaft to retain
 the shaft in the opening.
- 25 34. The apparatus of claim 33 wherein the shaft includes a notch
 formed therein to receive the body portion of the retaining member.
35. The apparatus of claim 33 wherein the second arm portion is
 biased with a spring, the spring including a first end attached to the second arm
 portion, and a second end of the spring attached to the frame.

36. The apparatus of claim 33 wherein the removable shaft includes a first end and a second end, the first and second ends received in openings formed in the frame, the retaining member contacting against the first end of the shaft, and a second retaining member contacting against the second end of the shaft.

37. The apparatus of claim 33 wherein the frame includes at least one opening, the first and second arm portion extending through the openings, the arm portion including openings formed therein to allow insertion of a locking pin.

38. A method of operating a tabber apparatus comprising:
providing a frame including at least one opening formed therein, a removable shaft including an end received in the opening, and a retaining member including a body portion and first and second arm portions, the first arm portion rotatably attached to the frame;
biasing the second arm portion;
contacting the body portion against the shaft; and
retaining the shaft in the opening.

39. The method of claim 38 wherein a spring is attached to the frame and to the second arm; biasing the body portion against the shaft.

40. The method of claim 38 wherein a notch is formed adjacent the end of the shaft; receiving the body portion in the notch.

41. The method of claim 38 further comprising:
rotating the retaining member about the first arm portion; and
removing the shaft from the opening.